



ELECTRIC VEHICLE ASSOCIATION OF GREATER WASHINGTON DC

Serving EV Drivers in Maryland, Northern Virginia and the District of Columbia

Clean Air Partners Board Meeting September 21, 2023

Bob Erdman – EVADC

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EVADC – Advocating for EVs since 1980

The **Electric Vehicle Association of Greater Washington, DC** is an organization of electric vehicle owners, educators and enthusiasts dedicated to promoting the use of electric vehicles (EVs) as an environmental and energy benefit to society. EVA/DC was formed in 1980 as a chapter of the nationwide Electric Vehicle Association (EVA), and holds regular monthly meetings, public displays, car shows and tech sessions to exchange information.

EVADC holds many events during the year to reach the public, including NDEW, DEED, School Events, Car shows, monthly educational zoom calls and more.

EVADC Members have driven over 7 million electric miles!



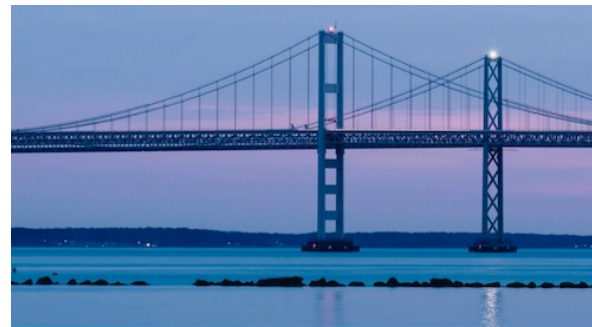
EVADC – Website Information

evadc.org/EVInfo

Up to date information about EVs available locally, policy papers and more!



The screenshot shows a webpage from EVADC titled "The Electric Vehicle Association of Greater Washington DC". It features a large table listing various electric vehicle models, including their make, model, year, range, and other specifications. The table is organized into columns and rows, with small images of the vehicles flanking the text.



Bay Bridge taken from Sandy Point Beach, Chesapeake Bay, MD. Photo Credit: Mark Tegethoff; <https://marktegethoff.com/posts/category/Posts>

The Far-reaching Benefits of Electric Vehicles

Ingrid Malmgren
with special thanks to Bob Erdman
and reviewers Charlie Skinner, Bradley Nelson, Julie Erdman, and Scott Wilson

December 2020



The InfoSheet: Photo, Price, Range, evadc.org/EVInfo Acceleration, Charging Speed, monthly cost



**The Electric Vehicle Association
of Greater Washington DC**
evadc.org/EVInfo

2023

**Electric Vehicle
Information Sheet**



Ocean



Mustang



EV6



Niro

All Electric

	Base Price (USD) ¹	Net Price (USD) ²	Range (mi) ³	Batt. (kWh)	Power (hp) ⁴	0-60 (sec)	QC (kW) ⁵	MPG Fuel / equiv ³ Mo. ⁶
Chevy Bolt EV	\$26,500	\$19,000	259	66	201	6.5	55	120 \$50
Chevy Bolt EUV	\$27,800	\$20,300	247	66	201	7.0	50	115 \$50
Fisker Ocean #	\$37,499	\$37,499	250-350	80*	275-550	3.6-6.9	250*	— —
Ford Mustang Mach-E#	\$45,995	\$42,245	224-247	70	266	5.2-5.8	115	93-103 \$63*
Ext. Range, GT #	\$63,995	\$60,245	260-306	91	290-480	3.5-6.1	150	82-101 \$63*
Hyundai Ioniq 5	\$41,450	\$41,450	220	58	167	7.4	230	110 \$54
Long #	\$45,500	\$45,500	256-303	77	225-320	5.2	230	98-114 \$54
Hyundai Ioniq 6	\$41,600	\$41,600	248*	53	149	—	230	140* \$42*
Long #	\$45,500	\$45,500	270-361	77	225-320	5.0*	230	103-140 \$50



The Far-reaching Benefits of Electric Vehicles

Benefits to the EV Owner:

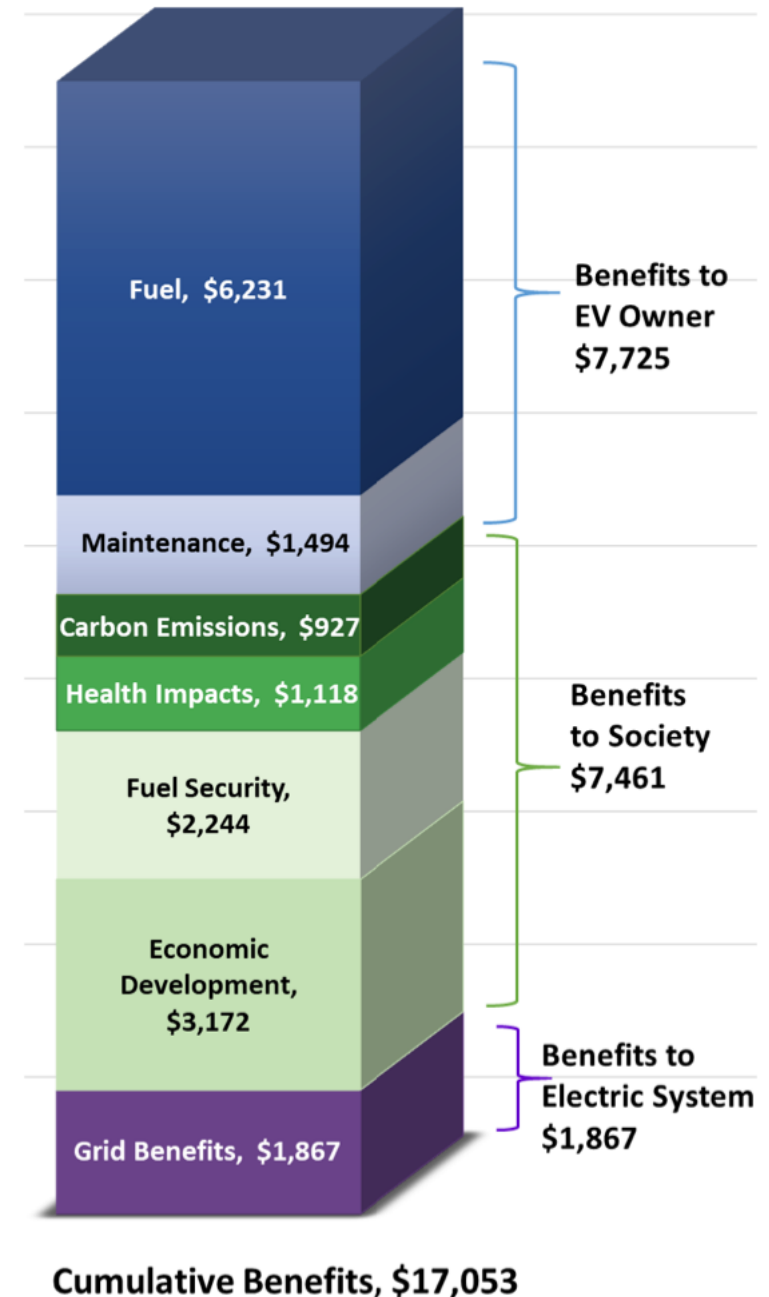
- Lower Fuel and Maintenance costs

Benefits to Society:

- **Lower carbon and GHG emissions** – Slow climate change
- **Health impacts** – Better air quality, reducing heart attacks, strokes, and asthma attacks resulting in ER visits and hospitalization and premature deaths.
- **Fuel Security** – Dependence on imported fossil fuels for transportation results in significant risk and costs associated with fuel security and national security.
- **Economic Development** – EVs cost less to operate. This money stays in the local economy.

Grid Benefits:

- EVs can store electricity resulting in a more resilient and efficient electric system. Increased grid efficiency can put downward pressure on electric rates, even for those without EVs.





National Drive Electric Week™

Events website that lists all the events across the country:

<https://driveelectricweek.org/>



EVHYBRIDNOIRE



Poolesville Day

<https://driveelectricweek.org/event?eventid=3593>

Drive Electric Poolesville Day Event

Saturday, September 23, 2023

10:00 am - 4:00 pm EDT

19950 Fisher Ave
Poolesville, MD 20837

- largest NDEW event worldwide in 2022
- At the same time as Poolesville day.
- Parades, food trucks, ride and drives and more.



EV in DC

<https://driveelectricweek.org/event?eventid=4002>

EV in DC

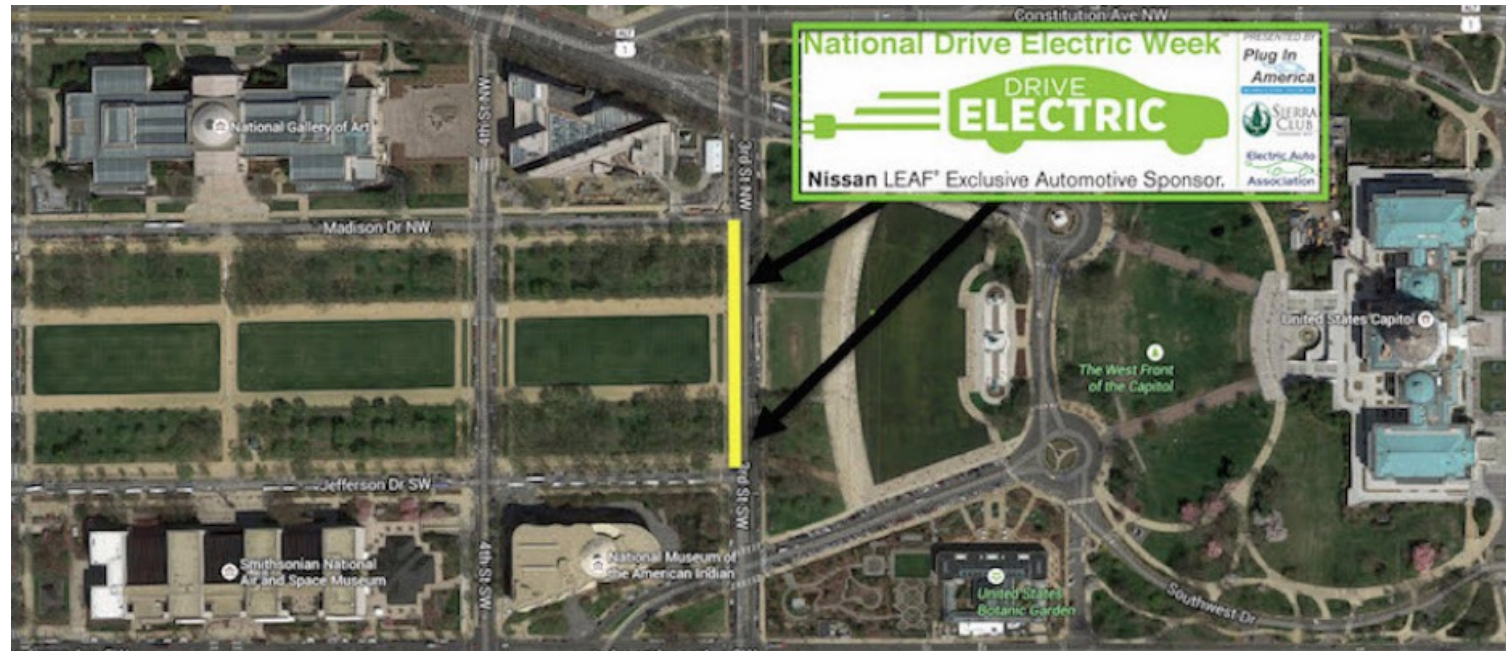
Saturday, September 30, 2023

10:00 am - 3:00 pm EDT

3rd St west of the US Capitol
Washington, DC 20560



- On the mall in front of the capitol.
- Talk to EV Owners
- Mom's Clean Air Force, Eco Madres, Hip Hop Caucus, and other EV/EJ groups and more invited to speak.



Clarksville Commons

<https://driveelectricweek.org/event?eventid=3879>

Clarksville Commons Electric Vehicle Show

Saturday, September 30, 2023

3:00 - 6:00 pm EDT

12230 Clarksville Pike

Clarksville, MD 21029

- Check out an assortment of electric vehicle models and talk to current EV owners. Talk to EV Owners



Northern VA EV Showcase - Electrify your Ride

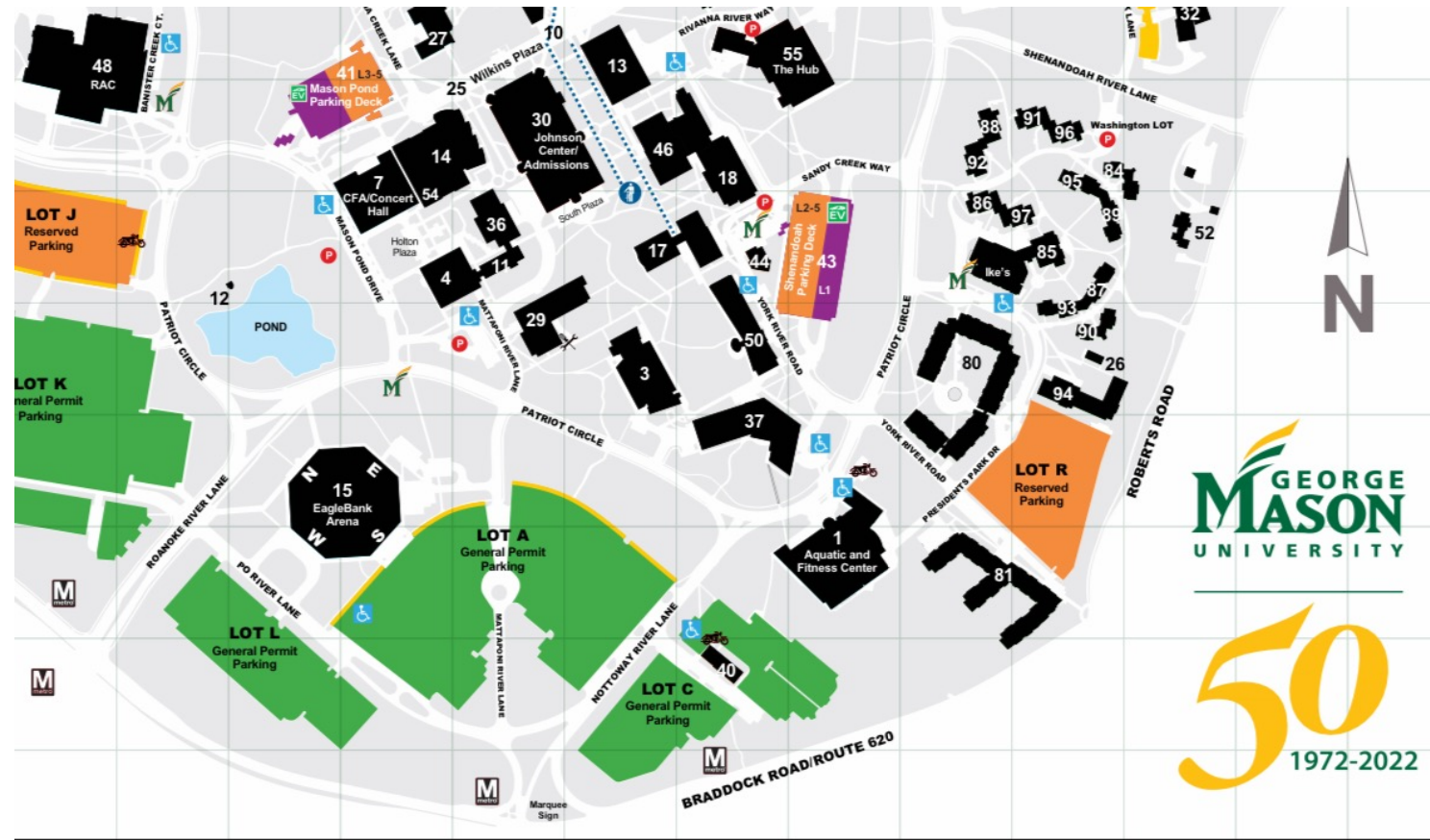
<https://driveelectricweek.org/event?eventid=3900>

Northern Virginia EV Showcase - Electrify your Ride

Sunday, October 1, 2023

1:00 - 5:00 pm EST

George Mason University Lot L
Roanoke River Lane and Po River Lane
Fairfax, VA 22030



Electric Vehicle Festival 2023 Thornburg, VA

<https://driveelectricweek.org/event?eventid=4026>

Electric Vehicle Festival 2023 Thornburg, VA

Saturday, October 7, 2023

10:00 am - 5:00 pm EST

6501 Dominion Raceway

Thornburg, VA 22580

The Electric Vehicle Festival is more than just a track day or a car show – it's an interactive event with something for everyone. Guests will have the opportunity to experience and compare the latest EVs and get rides with EV owners around the racetrack. There will be plenty of opportunities to speak with vendors and EV owners, attend educational presentations and discussions, and learn about the latest sustainable energy solutions.

[Drive Electric Vermont - Introduction to EVs Webinar](#)

Tue, Sep 19, 6:30 - 7:30 pm EDT

Target Audience: Winooski, VT

Topic(s): *EV 101 • Cost of Ownership • Incentives*

Please join us on this free webinar to learn about plug-in electric vehicles, including models available in Vermont, charging at home and on-the-road, winter driving, purchase incentives, Drive Electric Vermont resources, upcoming National Drive Electric Week events and more! [More details...](#)

RSVP

[Storytelling to Boost EV Adoption: Expert Panel](#)

Sat, Sep 30, 10:00 - 11:30 am PDT

Target Audience: Santa Monica, CA

Topic(s): *Driving Experience • Environmental Benefits • Equity • Other*

A panel of communicators and storytellers will share best practices for boosting EV adoption by reaching a mass audience.

[More details...](#)

RSVP

[EV 101 - Electrify Your Ride](#)

Tue, Sep 26, 5:30 - 6:30 pm MST

Target Audience: Phoenix, AZ

Topic(s): *EV 101 • Cost of Ownership • Driving Experience • Environmental Benefits*

Webinar provides an overview of EV benefits, costs, charging basics, and incentives. [More details...](#)

Driveelectricweek.org/attend

**ONLINE
EVENTS!**

[Driveelectricweek.org/attend](https://driveelectricweek.org/attend)

ONLINE EVENTS!

[Why Long-Range Plug in Hybrid EVs? / Celebrate Andy Frank&...](#)

Sun, Oct 01, 1:00 - 2:00 pm PDT

Target Audience: Long Beach, CA

Topic(s): *Battery Technology • Environmental Benefits • History • Other*

Attend our panel of PHEV pioneers to get the latest on this critical transportation technology. We will also celebrate the 90th Birthday of Professor Andy Frank, professor of the modern PHEV [More details...](#)

RSVP

[Consumer Reports and Generation180 “Ask an EV Owner&r...](#)

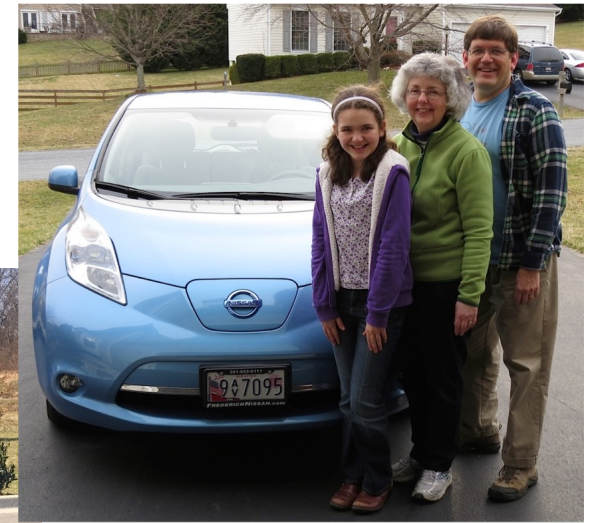
Thu, Sep 28, 7:00 - 8:00 pm EDT

Target Audience: United States

Topic(s): *EV 101 • Cost of Ownership • Driving Experience • Other*

In recognition of National Drive Electric Week, join Generation180 and Consumer Reports to learn all about electric vehicles (EVs) during our Ask an EV Owner virtual event on Thursday., Sept. 28 at 7:00 pm ET. Thinking about making the switch to electric? You can have all your questions answered by everyday folks across the country driving all types of EVs during this fun, 60-minute moderated discussion. Join us and get inspired to make your next vehicle electric! [More details...](#)

RSVP



Electric Vehicle 101

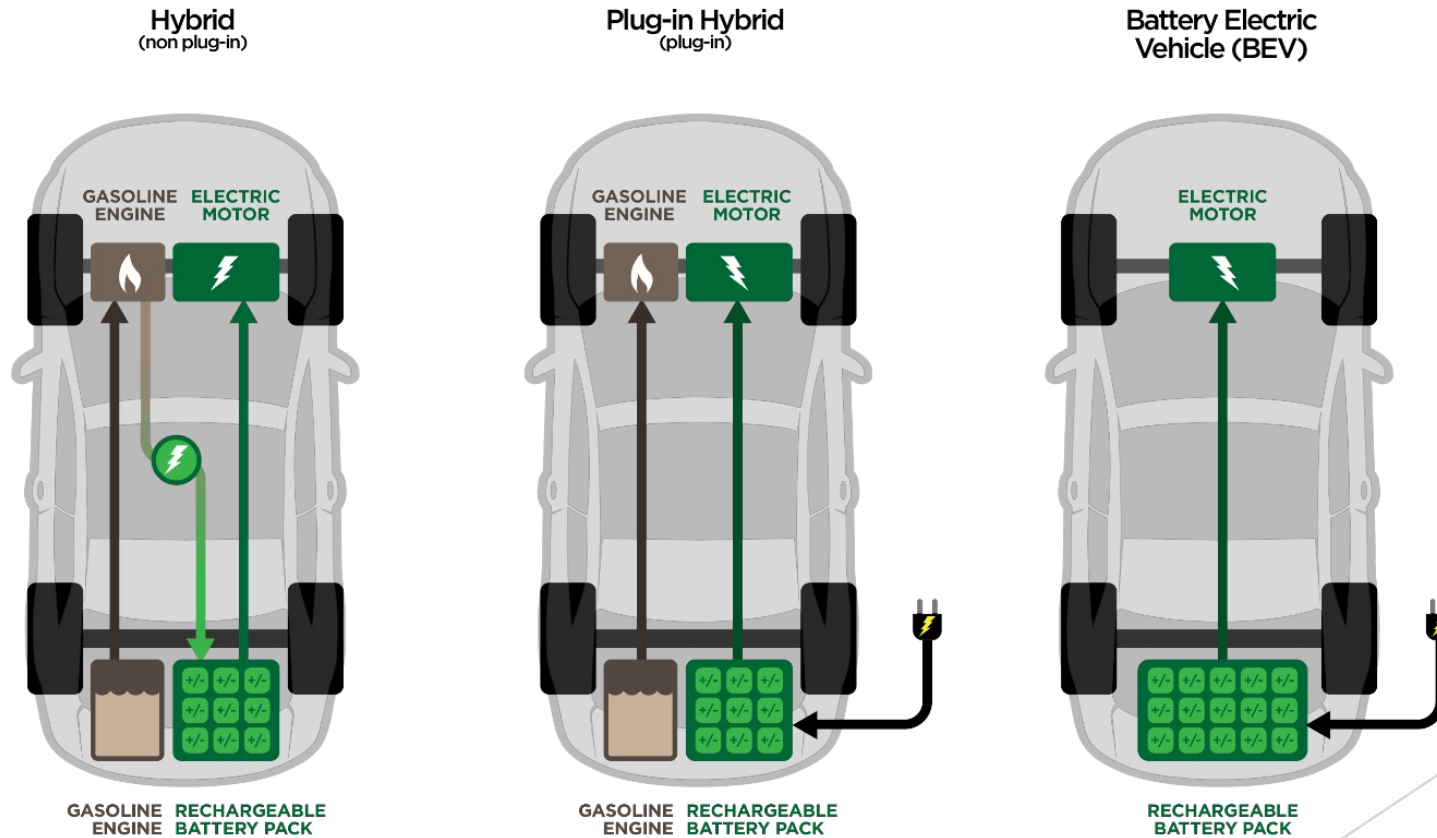
Electric Vehicle Overview



- Types of Electrified Vehicles
- Regenerative Braking/Energy Efficiency
- Benefits
- EV Charging
- EVs Get Cleaner Over Time
- Health Benefits
- Tax Credits

Types of Electrified Vehicles

- General public often confused about vehicle electrification.
- Electrified vehicles include hybrids.
- **Electric vehicles (EVs)** have a plug.



Source: Nova Scotia Power

Regenerative Braking

- ICE cars are very inefficient – Especially with braking as energy is wasted as heat due to the friction caused by stepping on the brakes.
- In an EV, regenerative braking puts that energy back into the batteries.
- This also extends the life of the brakes.



Electric Vehicle Benefits



- Much lower fuel and operating costs
 - EVs - 3 to 4 cents per mile
 - Gasoline - 5 to 30 cents per mile
- No toxic gasoline fumes
- Little maintenance other than tire rotation, brake checks & windshield wiper fluid – no tune ups, no oil changes
- Instant torque results in very good to fantastic acceleration
 - Quiet and fun to drive – generates that “EV Smile”
 - Can be a safety advantage: i.e. merging into traffic
- Much Cleaner than ICE (Internal Combustion Engine) cars
- Mostly U.S. generated electricity instead of foreign oil
 - We get about 2% of our electricity from Canadian Hydro

EV Charging Levels



	Common outlet	Requires "EV Charger" or EVSE (Electric Vehicle Service Equipment)	DC Fast Charging
	J1772	J1772	CHAdeMO, CSS, Tesla
	110/120 Volts 15 Amps	240 Volts Amps 15 to 80	High Voltage DC, Specifics Vary
	3 to 5 miles per hour	For most EVs between 12 to 46 miles of range per hour	50 to 200 miles per 30 minutes

J1772 Plug



DC FastCharge Plugs



CHAdeMO



SAE Combo (CCS)

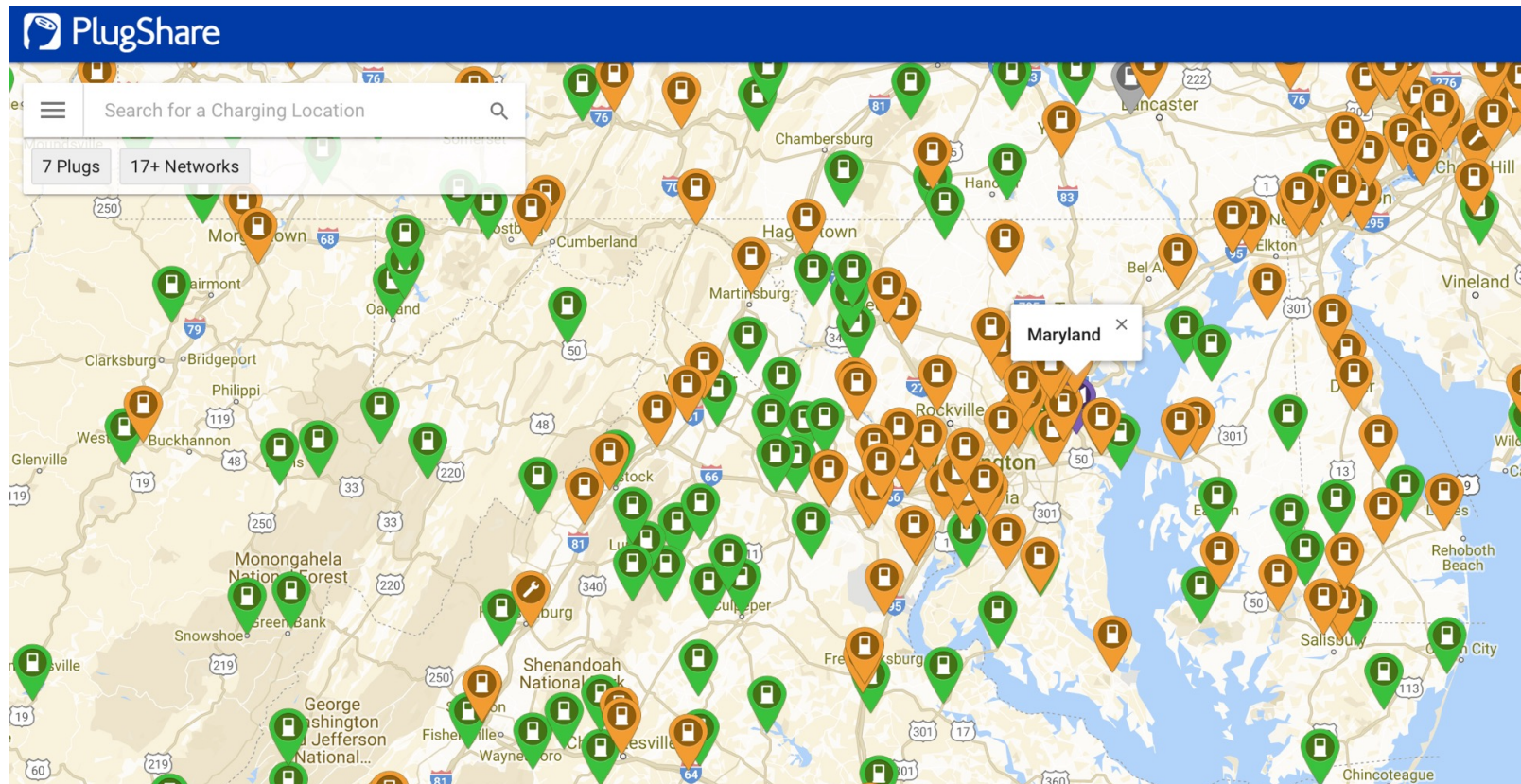


Tesla NACS

Finding Public Charging



- PlugShare is one of the most widely used options. Available at plugshare.com or as a smartphone app.

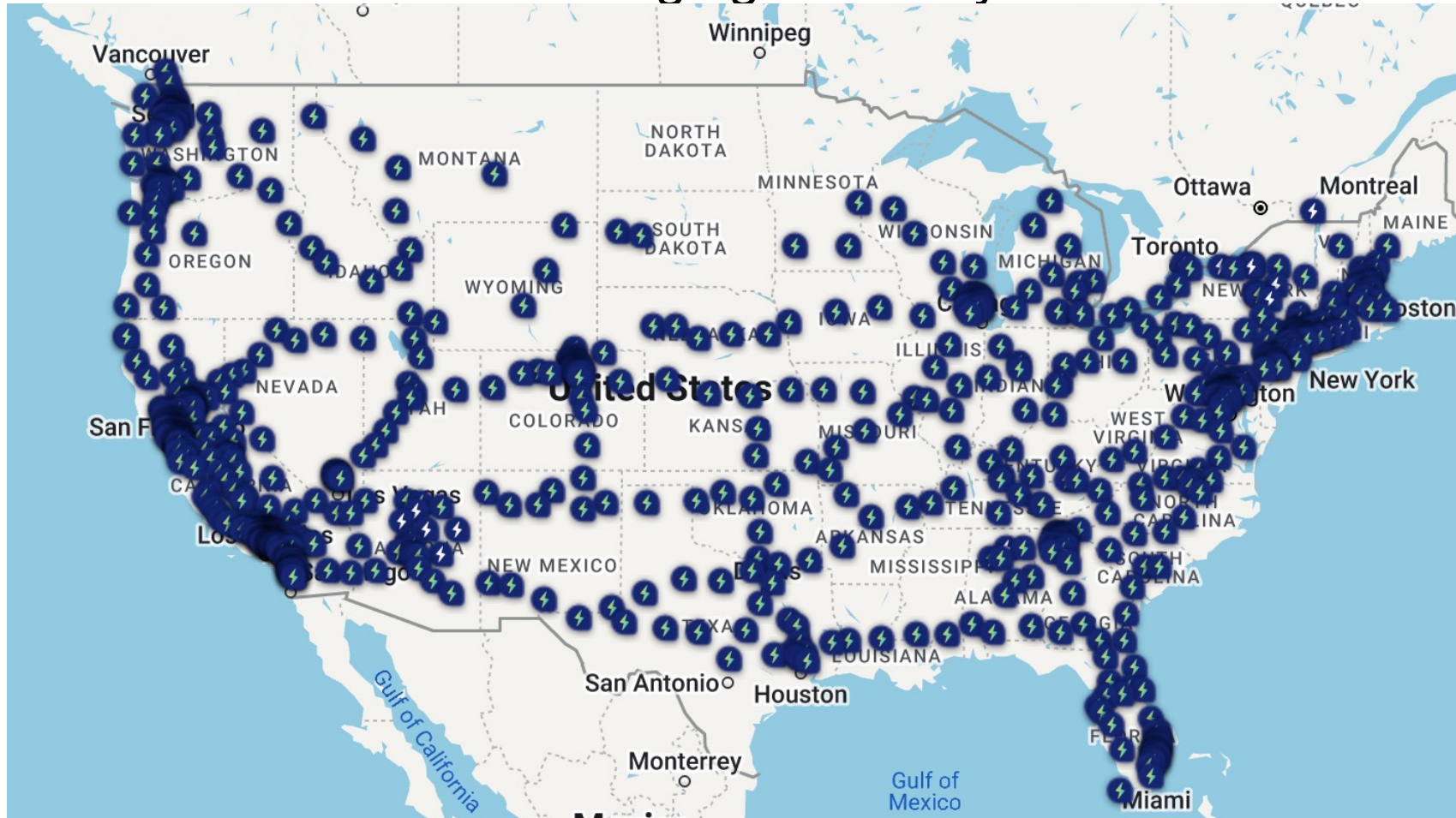


Sites for finding chargers: PlugShare.com, supercharge.info, abetterroutepanner.com



Electrify America DC Fast Chargers

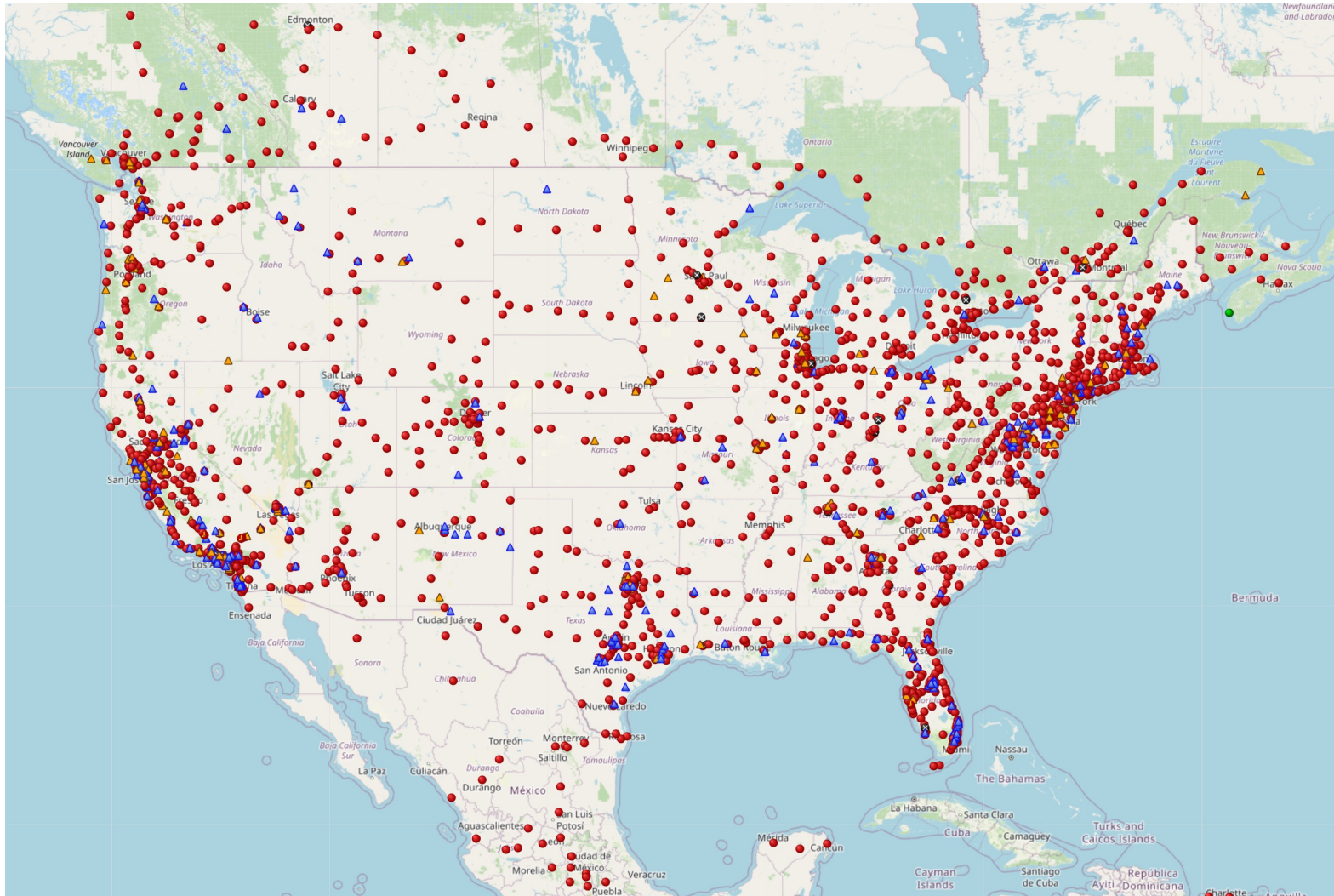
- Part of the VW DieselGate settlement is an investment of \$2 Billion dollars into EV charging over 10 years.



Source: electrifyamerica.com

Tesla Supercharger Network

- Over 5000 locations around the world with over 40000 chargers.

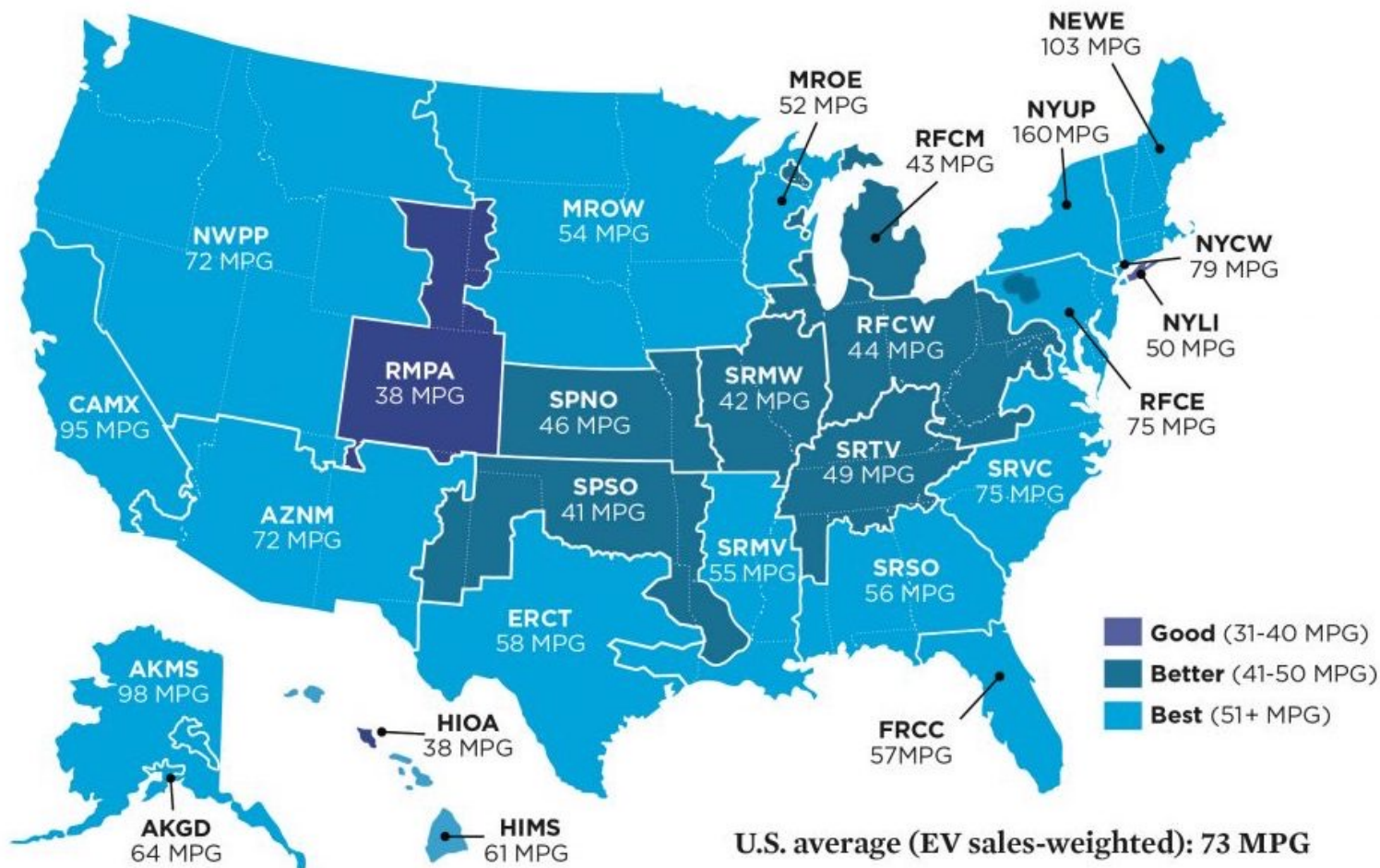


EVs Get Cleaner Over Time



- As the grid gets greener, the CO²/Pollution impact of Electric Vehicles continues to be reduced.
- For Internal Combustion Engines (ICE), they get dirtier over time due to both wear on engines and transmissions plus increased use of tar sands and other dirtier, unconventional fossil fuels.
- Most people can select wind power for a nominal added cost.
- Better yet, install roof top solar:
 - Approximately a dozen solar panels should produce enough electricity for approximately 12,000 miles of driving.

gasoline vehicle to match an EV charged from the grid in 2014.

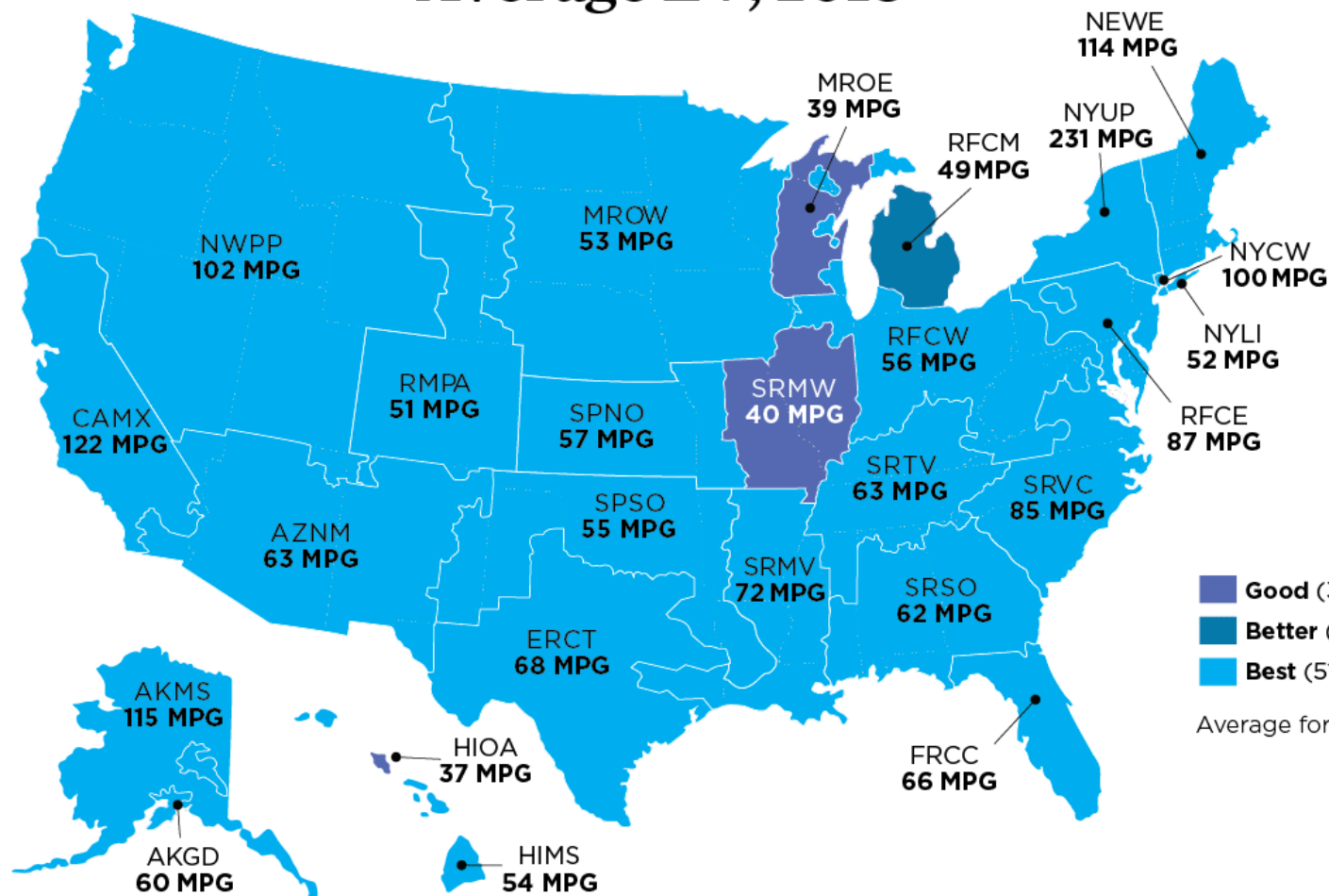


Note: The MPG (miles per gallon) value listed for each region is the combined city/highway fuel economy rating of a gasoline vehicle that would have global warming emissions equivalent to driving an EV. Regional global warming emissions ratings are based on 2014 power plant data in the EPA's eGRID 2014 database (the most recent version). Comparisons include gasoline and electricity fuel production emissions. The 73 MPG U.S. average is a sales-weighted average based on where EVs were sold in 2016.

2018



EV Emissions as Gasoline MPG Equivalent Average EV, 2018



An EV gets cleaner as the grid gets cleaner.

- Good (31-40 mpg)
- Better (41-50 mpg)
- Best (51+ mpg)

Average for US EVs: 88 mpg

American Lung Association Zeroing in on Healthy Air

What Are the Benefits?

Transitioning to zero-emission transportation and electricity will greatly reduce pollutants that harm health today and threaten a healthier future.

By 2050

**\$1.2
TRILLION**

in public health benefits



110,000 lives saved due to less pollution



+2.7 Million asthma attacks avoided



Major reductions in greenhouse gases that amplify risks to public health, air quality and more

New EV Tax Credit



- Replaces existing EV tax credit and now includes used vehicles.
- There are tax credits for both residential and commercial charging equipment.
- The tax credit for new vehicles now has two parts, one for critical minerals and one for battery components.
- The minimum percentages for these components ramp up over time.
- There are also new MSRP and Income caps.



New EV Tax Credit

	Overall Criteria	Sourcing Criteria	Credit Amount
Critical Minerals	<ul style="list-style-type: none">MSRP caps: \$80,000 for vans, SUVs and pickup trucks; \$55,000 for all other vehiclesIncome caps: \$300,000 for joint filers, \$225,000 for head of household, \$150,000 for single filers	Minimum percentage of critical minerals must be extracted or processed in the US or free trade partners OR recycled in North America	\$3750
Battery Components	<ul style="list-style-type: none">Final assembly must take place in North AmericaOne credit per vehicle	Minimum percentage of battery components must be manufactured or assembled in North America	\$3750

Used EV Tax Credit

Vehicle Requirements	Income Caps	Credit Amount
<ul style="list-style-type: none">● Vehicle must be at least 2 years old● Under \$25,000● Sold by a dealer● No additional sourcing requirements (eg. critical minerals, battery components, final assembly)	<p>Eligible consumers must fall at or below the income caps:</p> <ul style="list-style-type: none">● \$150,000 for joint return or surviving spouse● \$112,500 for head of household● \$75,000 for others	<p>\$4,000 or 30% of the price of the vehicle (whichever is less)</p>



First Wednesday of Every Month at 7:30PM
Go to [evadc.org/Ask](https://www.evadc.org/Ask) for Zoom link and details

Federal Tax Incentive Info
<https://www.fueleconomy.gov/feg/taxcenter.shtml>





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